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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/497,107	02/03/2000	Jayne Brady	10457ROUS03U	7103

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EXAMINER

HA, YVONNE QUY M

ART UNIT	PAPER NUMBER
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2664

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/497,107

Applicant(s)

BRADY ET AL.

Examiner

Yvonne Q. Ha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 8 and 10-14 is/are rejected.
- 7) ☒ Claim(s) 3-5, 7 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Amended claims 1, 2, 10, and 11 have been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 6, 8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Tenonaka (US Patent 6,487,223).

Referring to claims 1 and 10, Tenonaka discloses assembly of SDH frame structure (col. 2, lines 57-62; figure 4) at hierarchy level N (col. 5, lines 47-56; figure 1b): receiving hierarchically multiplexed administrative unit AU-n (col. 5; lines 36-56) comprising a payload and an AU-n pointer (figure 7); translating AU-n to TU-n by putting AU-n pointer into TU-n (col. 8, lines 23-55, AU-n pointer is added to VC-4 where VC-4 is defined as TUG-3; figure 4); and hierarchically multiplexing TU-n into the frame structure, $n \geq 3$ (col. 8, lines 50-55), gives the granularity of SDH signal (col. 8; lines 56-67); and AU-n pointer provides the beginning of said payload with respect to the frame structure (col. 8; lines 51-53, 64-65, mapping/demapping always pass the stage of AU-4, to harmonize the hierarchical levels of internal signals).

Referring to claim 2, Tenonaka discloses all aspects of the claimed invention and further teaches translating AU payload into a TU payload (col. 8, lines 23-55, AU-n pointer is added to

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VC-4 where VC-4 is defined as TUG-3; figure 4); transforming AU pointer and TU pointer; aligning AU payload into TU-n based on TU pointer (col.9; lines 55-67,col. 10, lines 1-47).

Referring to claim 6, Tenonaka discloses all aspects of the claimed invention and further teaches the hierarchically multiplexed STM-4 when $n=3$ and $N=4$ (col.10; lines 35-42; Figure 13).

Referring to claim 8, Tenonaka discloses all aspects of the claimed invention and further teaches the hierarchically multiplexed STM-4 when $n=4$ and $N=4$ (col.10; lines 35-42; Figure 13).

Referring to claim 11, Tenonaka discloses reducing the number of AU pointers of STM-n with AU-n granularity, an AU-n unit having AU pointer and payload (col. 8; lines 51-53, 64-65, mapping/demapping always pass the stage of AU-4, figures 4, 5), comprising: putting AU pointer into AU a payload (col. 8, lines 44-55, AU-4 is formed by adding AU-4 pointer); translating AU-n payload by having AU-n pointer into TU-n (col. 8, lines 23-55, AU-n pointer is added to VC-4 where VC-4 is defined as TUG-3; figure 4); and hierarchically multiplexing TU-n into the frame structure, $n \geq 3$ (col. 8, lines 50-55).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Norman (US Patent 6,011,802) in view of Nakamura et al. (US Patent 6,385,213) in further view of Chao et al (US Patent 4,893,306).

Referring to claim 12, Norman discloses assembly of STM-N frame comprising the steps of receiving an administrative unit AU-n comprising a payload and an AU-n pointer (col.5; lines 8-36; Figure 2) and SDH interface that performs AU pointer and TU pointer translations are performed based on TU payload (col.15; lines 13-21) and a gateway converter that handles payload conversions between VTG and TUG. Norman does not expressly disclose the translation of AU payload into a TU payload in the gateway converter or SDH interface in hierarchical multiplexing and the reduction of AU pointers of very high-speed synchronous transport signal STM-N. However, Nakamura discloses the conversion of AU-n payload to TU-n payload including the corresponding pointers (col.3; lines 23-29). Chao discloses multiplexing tributaries having different bit rates into a common bit stream resulted in the well-known hierarchical multiplexing plan with DS-1, DS-2, DS-3 signals (col.2, 28-34). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Norman's pointer translation with Nakamura conversion of AU-n payload to TU-n payload and Chao multiplexing in hierarchical order. One of ordinary skill in the art would have been motivated to combine the AU to TU payload conversion techniques as Norman's converter which supports TUG (i.e. TU payload) as the combination allows for AU payload (converted to TU payload) to be handled by the gateway converter and multiplexing in hierarchical order is well known in the art with different rates into a common bit stream. The conversion capability further motivates one of ordinary skill in art to include lower hierarchy level (i.e. fine

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granularity) AU which is translated into TU that is subsequently hierarchy multiplexed into higher level AU which reduces AU pointers of very high speed synchronous transport signal STM-N. Higher level (i.e. coarse granularity) AU pointer is added to the higher level AU payload that forms a higher-level STM-N.

Referring to claims 13 and 14, Norman disclose all aspects of the claimed invention and further teaches the structure of STM-N (i.e. hierarchy capability inclusive of STM-4 STM-16, STM-64, and STM-256) by multiplexing multiples of AUG to achieve the desired STM level (col.6; lines 61-62, Figure 3; references AUG and STM-N).

Response to Arguments

6. Applicant's arguments with respect to claims 1, 2, 6, 8, and 10-14 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

7. Claims 3-5, 7, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Fedders et al. (US Patent 6,603,776) discloses system for efficient broadband data payload conversion
- Guinand et al. (US Patent 5,210,745) discloses frame restructuring interface for digital bit streams multiplexed by multiplexing tributaries with different bit rates

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9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvonne Q. Ha whose telephone number is 703-305-8392. The examiner can normally be reached on Monday-Friday 7a.m.-4p.m. Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ajit Patel can be reached on 703-308-5347. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

YQH


Ajit Patel
Primary Examiner